

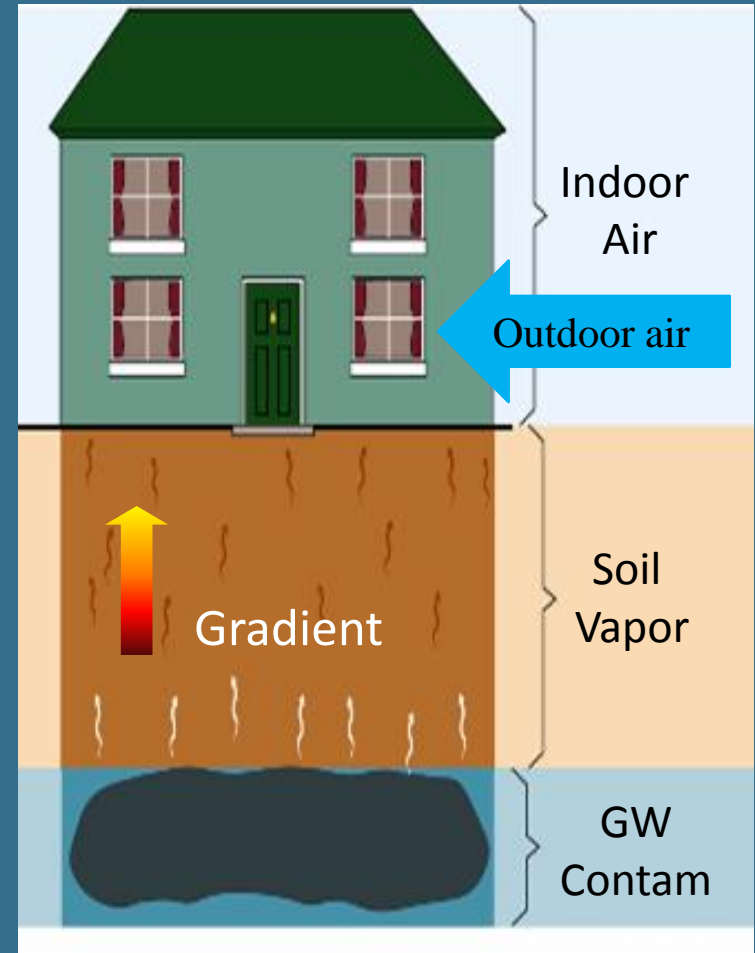
# Indoor Air & Sub-Slab Sampling – Preliminary Findings for Homes at Motorola 52<sup>nd</sup> Street Site

Phoenix, AZ  
September 2011

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# Soil Gas and Indoor Air

- Vapor intrusion = soil gas entering overlying buildings
- Questions to address:
  - Is VI happening?
  - If so, are indoor air exposures of potential health concern?





## Preview of Findings

- No in-home exposures that would prompt emergency response or expedited mitigation
- Some additional investigation planned
  - Based on sub-slab findings of potential concern (not indoor air)



# Contaminants of Concern

- Contaminants of Primary Concern
- Trichloroethylene (TCE)
  - present in some commercial products (Gun-cleaner)
- Perchloroethylene (PCE)
  - PCE is dry cleaning solvent

# Soil Gas Human Health Screening Levels (SGHHSLs)

Then indoor air calculated to be less than:

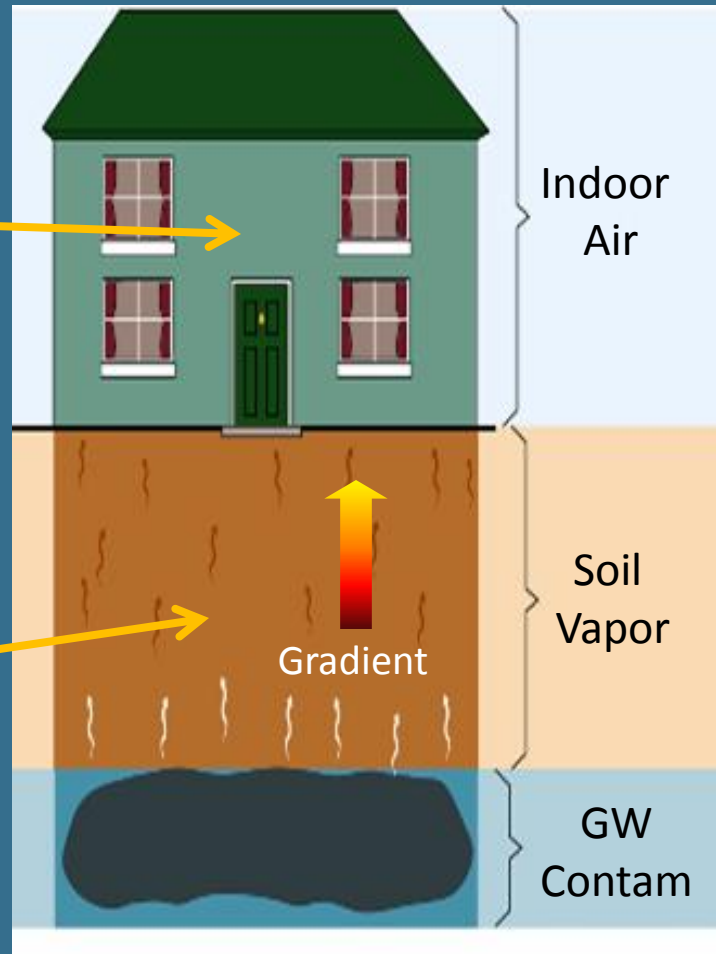
- TCE: 1.2
- PCE: 0.41

If soil gas **less** than:

- TCE: 520
- PCE: 180

(SGHHSLs)

All values  $\mu\text{g}/\text{m}^3$



Potential for vapor intrusion - additional assessment needed:

- Additional soil gas (**step-out samples**)
- **Indoor air**

If soil gas **greater** than SGHHSLs

- TCE: 520
- PCE: 180



# Protective Indoor Air Concentrations - Residences

## Risk-based Screening Levels – Inhalation (Inhalation RSLs)

- TCE:  $1.2 \mu\text{g}/\text{m}^3$
- PCE:  $0.4 \mu\text{g}/\text{m}^3$

(micrograms per cubic meter of air)

## Basis:

- 1 in one-million increased chance of developing cancer
- 24 hours/day, 350 days/year, 30 years exposure

Less frequent and/or shorter exposures = lower risk



# Sub-Slab Screening Level - Residences

## Sub-Slab Screening Levels

- Developed from indoor air-to-sub-slab attenuation factor
- Identify buildings with the potential for VI
- Additional investigation

Basis: Attenuation factor = 100-fold

- TCE:  $120 \mu\text{g}/\text{m}^3$
- PCE:  $40 \mu\text{g}/\text{m}^3$

(micrograms per cubic meter of air)



## Preliminary Results

- All indoor air & sub-slab data are preliminary (unvalidated) data
  - No actual values will be presented
- Results represent testing in individual homes – no addresses or specific locations will be presented (to respect the privacy of the volunteers)



# Preliminary Results



# Preliminary TCE – Monterey Village (5 Residences\*)



\* ground-floor apartments in buildings near highest soil gas concentrations

## TCE - Indoor:

- 5 detections
- 2 above Inhalation RSL
  - within  $10^{-6}$  risk
  - potential indoor sources

## TCE - Sub-Slab:

- 5 detections
- 4 above SS screening level



# Preliminary PCE – Monterey Village (5 Residences)



\* ground-floor apartments in buildings near highest soil gas concentrations

## PCE - Indoor:

- 5 detections
- 3 above Inhalation RSL
  - within  $10^{-6}$  risk
  - potential indoor sources

## PCE - Sub-Slab:

- 4 detections
- None above SS screening level

# Preliminary TCE – Willetta Area (8 Residences)



## TCE - Indoor:

- 2 detections
- None above Inhalation RSL

## TCE - Sub-Slab:

- 4 detections
- 1 above SS screening level

# Preliminary PCE – Willetta Area (8 Residences)



## PCE - Indoor:

- 3 detections
- None above Inhalation RSL

## PCE - Sub-Slab:

- 5 detections
- None above SS screening level

# Preliminary TCE – N 50<sup>th</sup> St. (12 Residences)

TCE - Indoor:

- 5 detections
- 1 above Inhalation RSL
  - within  $10^{-6}$  risk

TCE - Sub-Slab:

- 10 detections
- 3 above SS screening level



# Preliminary PCE – N 50<sup>th</sup> St. (12 Residences)

PCE - Indoor:

- 11 detections
- 1 above Inhalation RSL
  - within  $10^{-6}$  risk

PCE - Sub-Slab:

- 10 detections
- 3 above SS screening level





# Preliminary Outdoor Air Results







## Conclusions & Caveats

- No VI impacts to indoor air that merit emergency response or expedited mitigation
- Sub-slab soil gas concentrations in some areas merit additional investigation due to the potential for future VI
  - N 50<sup>th</sup> Street
  - Monterey Village complex

## ● ● ● | Conclusions & Caveats - 2

- Potential outdoor air impact at facility
  - TCE exceeded IRSI on 1 of 2 days sampled
  - No evidence of impacts on indoor air
- Some indoor air exposures due to household products containing TCE or PCE
- 2nd Phase of IA & SS sampling
  - Almeria Street residences
  - Education & commercial facilities



Thank You

QUESTIONS?